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Application No. 09/651,889
Docket No. 740756-2205**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A semiconductor device comprising:

a TFT formed over a substrate;

an active layer formed in the TFT; and

~~source and drain regions~~ a first region, a second region and a third region formed in the active layer ~~[[; and]]~~ , the third region being formed between the first region and the second region,

wherein the third region includes a channel forming region formed in the active layer and between the source and drain regions,

wherein a width of the third region is narrower than a width of the first region and a width of the second region,

wherein each of the width of the third region, the width of the first region and the width of the second region is a length in a direction perpendicular to a carrier flow direction, and

wherein a portion of the channel-forming third region is convexed or concaved in a channel-width direction, the direction perpendicular to the carrier flow direction, which is parallel to a plane of the substrate.

2. (Currently amended) A semiconductor device comprising:

a TFT formed over a substrate;

an active layer formed in the TFT; and

~~source and drain regions~~ a first region, a second region and a third region formed in the active layer ~~[[; and]]~~ , the third region being formed between the first region and the second region,

wherein the third region includes a channel forming region formed in the active layer and between the source and drain regions,

wherein a width of the third region is narrower than a width of the first region and a width of the second region,

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wherein each of the width of the third region, the width of the first region and the width of the second region is a length in a direction perpendicular to a carrier flow direction,

wherein a portion of the channel-forming third region is convexed or concaved in a channel-width direction, the direction perpendicular to the carrier flow direction, which is parallel to a plane of the substrate, and

wherein zero or one grain boundary is contained in the channel forming region.

3. (Currently amended) A semiconductor device comprising:

a TFT formed over a substrate;

an active layer formed in the TFT; and

source and drain regions a first region, a second region and a third region formed in the active layer [[: and]] , the third region being formed between the first region and the second region,

wherein the third region includes a channel forming region formed in the active layer and between the source and drain regions,

wherein a width of the third region is narrower than a width of the first region and a width of the second region,

wherein each of the width of the third region, the width of the first region and the width of the second region is a length in a direction perpendicular to a carrier flow direction,

wherein a portion of the channel-forming third region is convexed or concaved in a channel-width direction, the direction perpendicular to the carrier flow direction, which is parallel to a plane of the substrate, and

wherein the number of grain boundaries crossing the channel forming region in [[the]] a width direction of the channel forming region is zero or one.

4. (Withdrawn) A method of manufacturing a semiconductor device, comprising the steps of:

forming a semiconductor film over a substrate;

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forming a crystalline semiconductor film by irradiating a laser light to said semiconductor film;

forming a convex portion or a concave portion in a region which is a portion of said crystalline semiconductor film and which later contains a channel forming region; and

irradiating the laser light to said crystalline semiconductor film in which the convex portion or the concave portion is formed.

5. (Withdrawn) A method of manufacturing a semiconductor device, comprising the steps of:

forming a semiconductor film over a substrate;

forming a crystalline semiconductor film by irradiating a laser light to said semiconductor film;

forming a convex portion or a concave portion in a region which is a portion of said crystalline semiconductor film and which later contains a channel forming region; and

irradiating the laser light to the top surface and to the bottom surface of said crystalline semiconductor film in which the convex portion or the concave portion is formed.

6. (Withdrawn) A method of manufacturing a semiconductor device, comprising the steps of:

forming a semiconductor film over a substrate;

forming semiconductor islands by patterning said semiconductor film, each of said semiconductor island having a convex portion or a concave portion in a region which later contains a channel forming region, and

crystallizing said semiconductor islands by irradiating a laser light.

7. (Withdrawn) A method of manufacturing a semiconductor device, comprising the steps of:

forming a semiconductor film over a substrate;

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forming semiconductor islands by patterning said semiconductor film, each of said semiconductor island having a convex portion or a concave portion in a region which later contains a channel forming region, and

crystallizing said semiconductor islands by irradiating a laser light to the top surface and to the bottom surface thereof.

8. (Withdrawn) The method of manufacturing a semiconductor device according to claim 5, wherein a relationship of $0 < (I_0' / I_0) < 1$, or a relationship of $1 < (I_0' / I_0)$, exists between the effective energy strength of the laser light irradiated on the top surface of said semiconductor film (I_0) and the effective energy strength of the laser light irradiated on the bottom surface of said semiconductor film (I_0').

9. (Withdrawn) The method of manufacturing a semiconductor device according to claim 7, wherein a relationship of $0 < (I_0' / I_0) < 1$, or a relationship of $1 < (I_0' / I_0)$, exists between the effective energy strength of the laser light irradiated on the top surface of said semiconductor island (I_0') and the effective energy strength of the laser light irradiated on the bottom surface of said semiconductor island (I_0).

10. (Previously Presented) A semiconductor device according to any one of claims 1 to 3, wherein said semiconductor device is incorporated into an electronic device selected from the group consisting of a personal computer, a projector, a digital camera, a video camera, a head mounted display, a portable information terminal, a navigation system, a game machine, an image playback machine and a music playback machine.

11. (Currently amended) A semiconductor device comprising:
a semiconductor layer formed over a substrate; and
~~a channel forming region and source and drain regions~~ a first region, a second region and a third region formed in ~~[[said]]~~ the semiconductor layer, ~~the third region being formed between the first region and the second region,~~

wherein ~~[[said]]~~ the third region includes a channel forming region is formed between said source and drain regions,

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wherein a width of the third region is narrower than a width of the first region and a width of the second region,

wherein each of the width of the third region, the width of the first region and the width of the second region is a length in a direction perpendicular to a channel length direction, and

wherein a portion of said channel forming the third region is convexed in [[a]] the direction perpendicular to [[a]] the channel length direction and parallel to a plane of the substrate.

12. (Currently amended) A semiconductor device comprising:

a semiconductor layer formed over a substrate; and

~~a channel forming region and source and drain regions~~ a first region, a second region and a third region formed in [[said]] the semiconductor layer, the third region being formed between the first region and the second region,

wherein the third region includes a channel forming region is formed between the source and drain regions,

wherein a width of the third region is narrower than a width of the first region and a width of the second region,

wherein each of the width of the third region, the width of the first region and the width of the second region is a length in a direction perpendicular to a channel length direction, and

wherein a portion of said channel forming the third region is concaved in [[a]] the direction perpendicular to [[a]] the channel length direction and parallel to a plane of the substrate.

13. (Currently amended) A semiconductor device comprising:

a semiconductor layer formed over a substrate; and

~~a channel forming region and source and drain regions~~ a first region, a second region and a third region formed in [[said]] the semiconductor layer, the third region being formed between the first region and the second region,

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wherein ~~[[said]] the third region includes a channel forming region is formed between said source and drain regions,~~

wherein a width of the third region is narrower than a width of the first region and a width of the second region,

wherein each of the width of the third region, the width of the first region and the width of the second region is a length in a channel width direction, and

wherein a portion of ~~said channel forming the third~~ region is convexed in ~~[[a]] the~~ channel width direction, ~~[[said]] the~~ channel width direction being parallel to a plane of the substrate.

14. (Currently amended) A semiconductor device comprising:

a semiconductor layer formed over a substrate; and

~~a channel forming region and source and drain regions~~ a first region, a second region and a third region formed in ~~[[said]] the~~ semiconductor layer, the third region being formed between the first region and the second region,

wherein ~~[[said]] the third region includes a channel forming region is formed between said source and drain regions,~~

wherein a width of the third region is narrower than a width of the first region and a width of the second region,

wherein each of the width of the third region, the width of the first region and the width of the second region is a length in a channel width direction, and

wherein a portion of ~~said channel forming the third~~ region is concaved in ~~[[a]] the~~ channel width direction, ~~[[said]] the~~ channel width direction being parallel to a plane of the substrate.

15. (Currently amended) A semiconductor device comprising:

a semiconductor layer formed over a substrate; and

~~a channel forming region and source and drain regions~~ a first region, a second region and a third region formed in ~~[[said]] the~~ semiconductor layer, the third region being formed between the first region and the second region,

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wherein ~~[[said]]~~ the third region includes a channel forming region is formed between said source and drain regions,

wherein a width of the third region is narrower than a width of the first region and a width of the second region,

wherein each of the width of the third region, the width of the first region and the width of the second region is a length in a direction perpendicular to a carrier flow direction, and

wherein a portion of ~~said channel forming~~ the third region is convexed in ~~[[a]]~~ the direction perpendicular to ~~[[a]]~~ the carrier flow direction and parallel to a plane of the substrate.

16. (Currently amended) A semiconductor device comprising:

a semiconductor layer formed over a substrate; and

a channel forming region and source and drain regions a first region, a second region and a third region formed in [[said]] the semiconductor layer, the third region being formed between the first region and the second region,

wherein ~~[[said]]~~ the third region includes a channel forming region is formed between said source and drain regions,

wherein a width of the third region is narrower than a width of the first region and a width of the second region,

wherein each of the width of the third region, the width of the first region and the width of the second region is a length in a direction perpendicular to a carrier flow direction, and

wherein a portion of ~~said channel forming~~ the third region is concaved in ~~[[a]]~~ the direction perpendicular to ~~[[a]]~~ the carrier flow direction and parallel to a plane of the substrate.

17. (Previously Presented) A semiconductor device according to any one of claims 11-16, wherein said semiconductor device is incorporated into an electronic device selected from the group consisting of a personal computer, a projector, a digital camera, a

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video camera, a head mounted display, a portable information terminal, a navigation system, a game machine, an image playback machine and a music playback machine.

18. (Cancelled) A semiconductor device according to claim 1, wherein said channel width direction is perpendicular to a direction in which a carrier flows from the source region to the drain region.

19. (Cancelled) A semiconductor device according to claim 2, wherein said channel width direction is perpendicular to a direction in which a carrier flows from the source region to the drain region.

20. (Cancelled) A semiconductor device according to claim 3, wherein said channel width direction is perpendicular to a direction in which a carrier flows from the source region to the drain region.

21. (Currently Amended) A semiconductor device according to claim 11, wherein [[said]] the channel length direction is parallel to a direction in which a carrier flows from the source first region to the drain second region.

22. (Currently Amended) A semiconductor device according to claim 12, wherein [[said]] the channel length direction is parallel to a direction in which a carrier flows from the source first region to the drain second region.

23. (Currently Amended) A semiconductor device according to claim 13, wherein [[said]] the channel width direction is perpendicular to a direction in which a carrier flows from the source first region to the drain second region.

24. (Currently Amended) A semiconductor device according to claim 14, wherein [[said]] the channel width direction is perpendicular to a direction in which a carrier flows from the source first region to the drain second region.

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25. (New) A semiconductor device according to claim 11, wherein zero or one grain boundary is contained in the channel forming region.

26. (New) A semiconductor device according to claim 12, wherein zero or one grain boundary is contained in the channel forming region.

27. (New) A semiconductor device according to claim 13, wherein zero or one grain boundary is contained in the channel forming region.

28. (New) A semiconductor device according to claim 14, wherein zero or one grain boundary is contained in the channel forming region.

29. (New) A semiconductor device according to claim 15, wherein zero or one grain boundary is contained in the channel forming region.

30. (New) A semiconductor device according to claim 16, wherein zero or one grain boundary is contained in the channel forming region.

31. (New) A semiconductor device according to claim 11, wherein the number of grain boundaries crossing the channel forming region in a width direction of the channel forming region is zero or one.

32. (New) A semiconductor device according to claim 12, wherein the number of grain boundaries crossing the channel forming region in a width direction of the channel forming region is zero or one.

33. (New) A semiconductor device according to claim 13, wherein the number of grain boundaries crossing the channel forming region in the channel width direction is zero or one.

34. (New) A semiconductor device according to claim 14, wherein the number of grain boundaries crossing the channel forming region in the channel width direction is zero or one.

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35. (New) A semiconductor device according to claim 15, wherein the number of grain boundaries crossing the channel forming region in a width direction of the channel forming region is zero or one.

36. (New) A semiconductor device according to claim 16, wherein the number of grain boundaries crossing the channel forming region in a width direction of the channel forming region is zero or one.

37. (New) A semiconductor device according to claim 1, wherein the first region includes a source region and the second region includes a drain region.

38. (New) A semiconductor device according to claim 2, wherein the first region includes a source region and the second region includes a drain region.

39. (New) A semiconductor device according to claim 3, wherein the first region includes a source region and the second region includes a drain region.

40. (New) A semiconductor device according to claim 11, wherein the first region includes a source region and the second region includes a drain region.

41. (New) A semiconductor device according to claim 12, wherein the first region includes a source region and the second region includes a drain region.

42. (New) A semiconductor device according to claim 13, wherein the first region includes a source region and the second region includes a drain region.

43. (New) A semiconductor device according to claim 14, wherein the first region includes a source region and the second region includes a drain region.

44. (New) A semiconductor device according to claim 15, wherein the first region includes a source region and the second region includes a drain region.

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45. (New) A semiconductor device according to claim 16, wherein the first region includes a source region and the second region includes a drain region.